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Harvesting lodged corn

H. Mark Hanna
Iowa State University, hmhanna@iastate.edu

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Nearly every year, adverse weather and crop conditions result in lodged corn in a few fields in the state. Lodging may be caused by wind storm, stalk rot or other disease, rootworm activity, or some combination of these. Regardless, it is a frustrating situation.

Combine operators need to accept that harvest will not be routine in these areas and recognize that extra time will be required.

A careful assessment of the situation should be made prior to harvest. How many acres are lodged? How severe is the lodging? What percentage of the total acres that must be harvested does this represent? Will labor and equipment availability be adequate to handle the situation? Each situation is unique and different combine operators will respond in various ways according to the conditions. Generally, lodged fields should be harvested when they are first ready to avoid increased lodging by further stalk disease development or wind storm.

In order to evaluate possible changes that may improve combine harvest, it is important to measure losses in the field behind the combine. Ears that stay below the combine head and are not gathered in by the gathering chains on to the stripper bars are the most common source of machine loss in lodged corn. Each 3/4-lb ear found in a hundredth of an acre plot equals a loss of one bushel per acre. For example, an operator using an eight-row, 30-in. corn head (20 ft wide) would check an area 21 ft 9 in. long and 8 rows wide behind the combine (area equals 435.6 sq ft or 1/100 of an acre). Finding five 3/4-lb size ears would equal a loss of 5 bushels per acre. If losses are excessive, check a similar unharvested area ahead of the combine for ears already lying on the ground and not attached to stalks. These would be preharvest losses that would be unlikely to be able to be picked up by the head regardless of adjustment. Kicking through cornstalks on the ground may help to find dropped ears hidden by stalks and leaves.

Slowing combine travel speed may reduce the amount of missed ears. Harvesting "against the grain" (e.g., harvesting toward the west in east-leaning cornstalks) also may reduce losses. Evaluate possible improvements by measuring losses. Make sure ear savers on the corn head are in good condition. Keep gathering snouts as low as practical to pick up downed ears. Gathering chains may need to be more aggressive.


[1]
Reel mounted on row crop head. (Mark Hanna)

Place stripper bars closer together if ear butt-shelling occurs on the stalk rolls.

If many acres of severely lodged corn are present and the window of time for harvest is anticipated to be short, consider procuring a corn head reel or other attachments such as crop dividers or lifters. Several after-market manufacturers market reels that can be mounted over the corn head to help lift and guide stalks into the head. Check availability through dealers or the Internet. Even if a reel does not decrease losses, it may allow faster combine travel speed with similar losses, allowing harvest to proceed in a more timely manner. Crop dividers mounted on each side of the head help to lift ears into the head that might otherwise escape.

Most important for a successful and safe harvest, develop the right attitude. Recognize that harvest will not be business as usual, but more time and effort will be required in areas with lodged crop. Do not let the inherent safety hazards involved compound field problems with the loss of your time during harvest. Stalk rolls pull in crop at about 12 ft/sec, much faster than reaction time to release the grip on a stalk. Do not attempt to unplug stalks from the corn head before disengaging power to the head and stopping the combine engine. Remove the operator's key if there is any chance that another person will be in the cab. Take the time to have a safe and efficient harvest. Rushing through activities, particularly early in the season before any weather-related pressures have developed, can be counterproductive.

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Links:
[1] http://www.ipm.iastate.edu/ipm/icm/node/675

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